

Fiscal Year:	FY 2015	Task Last Updated:	FY 09/25/2015
PI Name:	Stuster, Jack W. Ph.D.		
Project Title:	Generalizable Skills and Knowledge for Exploration Missions		
Division Name:	Human Research		
Program/Discipline:			
Program/Discipline-- Element/Subdiscipline:	HUMAN RESEARCH--Space Human Factors Engineering		
Joint Agency Name:	TechPort:	No	
Human Research Program Elements:	(1) HFBP :Human Factors & Behavioral Performance (IRP Rev H)		
Human Research Program Risks:	(1) HSIA :Risk of Adverse Outcomes Due to Inadequate Human Systems Integration Architecture		
Space Biology Element:	None		
Space Biology Cross-Element Discipline:	None		
Space Biology Special Category:	None		
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PI Web Page:	http://www.anacapasciences.com		
City:	Santa Barbara	State:	CA
Zip Code:	93101-4967	Congressional District:	24
Comments:	New address per PI (12/2012); previous address--301 East Carrillo Street, Santa Barbara, CA		
Project Type:	GROUND	Solicitation / Funding Source:	2014-15 HERO NNJ14ZSA001N-Crew Health (FLAGSHIP & NSBRI)
Start Date:	09/10/2015	End Date:	09/09/2018
No. of Post Docs:	No. of PhD Degrees:		
No. of PhD Candidates:	No. of Master' Degrees:		
No. of Master's Candidates:	No. of Bachelor's Degrees:		
No. of Bachelor's Candidates:	Monitoring Center: NASA JSC		
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Flight Program:			
Flight Assignment:			
Key Personnel Changes/Previous PI:			
COI Name (Institution):	Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center)		
Grant/Contract No.:	NNX15AW34G		
Performance Goal No.:			
Performance Goal Text:			

Task Description:	<p>This proposal offers to apply a proven method to identify the abilities and skills necessary to perform the work expected of exploration crews, and to develop recommendations for optimum training. The process will begin by developing a comprehensive inventory of tasks based on a review of existing mission planning documents and interviews with astronauts and other experts. A quantitative analysis of the tasks will be performed in conjunction with a systematic assessment of physical, cognitive, and social abilities required to perform the expedition tasks (using Fleischman definitions augmented with job-specific abilities when needed). The task and ability analyses will be conducted with the assistance of a large sample of astronauts, mission planners, and training experts and will result in a data-driven understanding of the knowledge, skills, and abilities necessary to perform the tasks expected for expedition-class space missions. The key skills and abilities identified by the process will be assessed for perishability, trainability, and generalizability and then optimum strategies for ensuring that those skills and abilities are possessed by expedition crew members when needed and will be developed based on principles derived from the research team's detailed understanding of the relevant training literature. Study results will provide the information necessary to close the target research gaps; in addition, results of the task and ability analyses will be useful to the designers of missions, procedures, software, equipment, and habitats, and to those responsible for crew composition. All work will be completed within the specified three-year period of performance by an experienced team of human factors and training specialists.</p>
Rationale for HRP Directed Research:	
Research Impact/Earth Benefits:	
Task Progress:	New project for FY2015.
Bibliography Type:	Description: (Last Updated: 11/13/2019)